CLAIMS

1 A storage medium (10) comprising:

- an information layer (11) including transparent and non-transparent areas in which the information is stored, and
- a magnetizable layer (12) intended to contain at least one magnetized area (14), which is temporarily created when a light spot (17) is transmitted by a corresponding transparent area (15) of the information layer.

2 A storage medium (10) as claimed in claim 1, further comprises a separation layer (16) such that said magnetized area (14) is greater than the corresponding transparent area (15).

3 A storage medium (10) as claimed in claim 1, wherein the information layer (11) comprises an array of data bit arranged in macro-cells, each macro-cell being intended to be read by a single light spot.

4 A storage medium (10) as claimed in claim 1, wherein the magnetizable layer (14) is made of a ferrimagnetic material such that magnetization of said material at room temperature is approximately zero, while for higher temperatures said material becomes magnetized.

5 A reading device for reading information from a storage medium (10) as claimed in claim 1, said reading device comprising:

- an optical element (23) for generating an array of light spots from an input light beam (21), a light spot (17) being intended to temporarily create the magnetized area (14) in the magnetizable layer (12) when passing through the corresponding transparent area (15) of the information layer (11), and
- a magnetic sensor (24) comprising an array of sensor elements for detecting the at least one magnetized area.

6 A reading device as claimed in claim 5, further comprising a phase-modulator (22) for scanning the storage medium by applying a phase profile to the input light beam (21) and by varying the phase profile.

7 A reading device as claimed in claim 6, wherein the phase-modulator (22) is placed in the light path of the input light beam 21.

8 A reading device as claimed in claim 6, wherein the phase-modulator (22) is placed between the optical element (23) and the storage medium (10).

9 A reading device as claimed in claim 5, wherein the magnetic sensor is a tunnel magneto-resistance sensor or a giant magneto-resistance sensor.

10 A reading device for reading information from a storage medium, said storage medium comprising an information layer including transparent and non-transparent areas in which the information is stored, said reading device comprising:

- an optical element (23) for generating an array of light spots from an input light beam (21),
- a magnetizable layer intended to contain at least one magnetized area, which is temporarily created when a light spot is transmitted by a corresponding transparent area of the information layer, and
- a magnetic sensor (24) comprising an array of sensor elements for detecting the at least one magnetized area.